

REMARKS

This application has been carefully reviewed in light of the Office Action dated March 15, 2005 ("Office Action"). Claims 1 to 38 are presented for examination, of which Claims 1, 34, and 35 are independent. Reconsideration and further examination are respectfully requested.

Turning first to formal matters involving the drawings, the Applicant wishes to thank the Examiner for indicating that the formal drawings filed on April 30, 2001, have been approved.

Turning to the substance of the Office Action, Claim 38 had been objected to under 37 C.F.R. § 1.75 as being a substantial duplicate of Claim 37. The objection is respectfully traversed. Applicants submit that Claim 38 is not a substantial duplicate of Claim 37 because Claim 38 is directed to a computer-readable medium, whereas Claim 37 is directed to computer-executable process steps. A claim to computer-executable process steps differs from a claim to a computer readable medium, as § 1.75 requires. Thus, while it is true that both Claim 37 and Claim 38 recite "computer-executable process steps" and "a computer-readable medium", Claim 37 claims the computer-executable process steps, whereas Claim 38 claims the computer-readable medium. Therefore, withdrawal of the § 1.75 objection to Claim 38 is respectfully requested.

All claims were rejected under 35 U.S.C. § 103(a), primarily over U.S. Patent 5,218,455 ("Kristy") in view of U.S. Patent 5,590,284 ("Crosetto") and "Using MPI-Portable Parallel Programming with the Message-Passing Interface" ("Gropp"). In rejecting certain ones of the dependent claims, the Office Action additionally relied on one

or more of the following patents: U.S. Patent 6,031,976 ("Koakutsu"); U.S. Patent 5,764,870 ("Manico"); U.S. Patent 5,930,465 ("Bellucco"); U.S. Patent 6,289,416 ("Fukushima"); U.S. Patent 6,421,782 ("Yanagisawa"); U.S. Patent 6,085,195 ("Hoyt"); U.S. Patent 5,949,411 ("Doerr"). In addition, the Office Action relied on an excerpt from the book "Inside Adobe Photoshop" by Bouton, et al. ("Bouton"), and through Official Notice (Office Action p. 27) took the position that using pointing devices for making selections and using digital tape to store data is old, well-known, and expected in the art such that it would have been obvious to one of ordinary skill in the art.

Reconsideration and withdrawal of the rejections are respectfully requested because the cited references do not teach all of the present claim limitations. In particular, the cited references do not teach or fairly suggest at least the features of (1) a second interface bus that is different from a first interface bus, and (2) repetition of a scanning step prior to completion of a writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously. These points are explained in greater detail below.

Independent Claim 1 recites a method for authoring a plurality of digital image records, each digital image record corresponding to a separate customer order, in a digital image record authoring system including a dedicated computer. The method comprises a scanning step, a processing step, and a writing step. The scanning step scans a plurality of images corresponding to a separate customer order from a scanner into a plurality of digital images. The scanner is connected to the dedicated computer by a first interface bus. The processing step processes the plurality of digital images and combines

the processed plurality of digital images into a record image. The writing step writes the record image by an image-recorder to a medium. The image-recorder is connected to the dedicated computer by a second interface bus different from the first interface bus. The scanning step is repeated, prior to completion of the writing step, to scan a new plurality of images corresponding to a new customer order from the scanner into a new plurality of digital images, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

Independent Claim 34 recites a method similar to Claim 1, including the features of (1) a second interface bus that is different from the first interface bus, and (2) repetition of the scanning step prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously. Claim 34 also specifies that the record image, which is passed from the dedicated computer to the image-recorder, is passed at a constant rate. Independent Claim 35 includes a scanning step, an adjusting step, a generating step, a processing step, and a CD-writing step, and also includes the features of (1) a second interface bus that is different from the first interface bus, and (2) repetition of the scanning step prior to completion of the writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

The invention was developed as a result of the inventors' investigation into CD authoring systems utilizing a dedicated personal computer connected to a scanner and

to a CD-recorder. In conventional systems, the PC is connected to a scanner and to a CD-recorder via a single, common bus, typically a small computer systems interface ("SCSI") bus. A SCSI bus is utilized because it is a high-speed interface and therefore is desirable to support connection of peripheral devices to the PC that require higher-speed data transfer rates. However, such a CD authoring system has the significant drawback that an entire customer order must be processed completely from scanning through CD-writing before a next customer order can be initiated. This drawback exists because a SCSI bus can only support communication between the PC and one peripheral device at a time.

Although parallel busses, such as a SCSI parallel interface, allow parallel communication with multiple peripheral devices, connecting the PC to a scanner and a CD-recorder through a common parallel bus also has drawbacks. For example, communications over such a SCSI parallel system is shared between the scanner and the CD-recorder on an as-needed basis. As a result, a constant rate of data transfer between the PC and the CD-recorder cannot be guaranteed when the scanner is in use. In addition, such a common parallel bus system can give rise to communication errors, which are particularly critical during the recording of a CD-ROM. Thus, in these single bus systems, the inability to simultaneously transfer data from multiple peripherals makes scanning a new customer order before completion of recording a first customer order undesirable.

In one significant advantage over conventional CD authoring systems, the present invention allows the repetition of the scanning step prior to completion of the writing step. This advantage stems, in part, from two separate interface busses, namely, a second interface bus which connects the dedicated computer to the image recorder, and a

first interface bus which connects the dedicated computer to the scanner. Because the invention allows scanning of a second customer order before the completion of writing a first customer order, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously, the invention realizes increased throughput because an operator need not stand idly by while the system is writing the first customer order. In addition, the use of a second interface bus that is different from the first interface bus allows the image writing to occur at a constant rate if desired and reduces communication errors due to sharing a common data bus on an as needed basis.

The applied art is not seen to disclose or suggest the features of independent Claims 1, 34, and 35, and in particular, is not seen to disclose or suggest at least the features of (1) a second interface bus that is different from a first interface bus, and (2) repetition of a scanning step prior to completion of a writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

The Office Action concedes that Kristy does not disclose that the image-recorder is connected to the dedicated computer by a second interface bus different from the first interface bus. (Office Action p. 4). To address this deficiency of Kristy, the Office Action relies on Crosetto and asserts that Crosetto discloses using separate interface buses. Applicants respectfully submit that such reliance is misplaced because Crosetto discloses single-bus connections only.

Crosetto relates to a real-time high density data communication system to control transmission of data among processor nodes using a serial communication network to send commands from the master processor node to slave processor nodes. (column 2, lines 51 to 60 of Crosetto). Crosetto is seen to teach processor nodes (FIG. 1 (100, 200, 202, 204)), serial links (FIG. 1 (10, 12, 14, 16, 18, 20)), and parallel data busses (FIG. 1 (30, 40, 50, 60)). The processor nodes utilize the serial links solely to transmit commands for coordinating the transfer of data between two nodes over the parallel data busses. (column 4, lines 15 to 17 and column 5, lines 57 to 60 of Crosetto). In contrast, the parallel data busses are used solely to transmit data. (column 4, lines 13 to 15, column 5, lines 57 to 60 of Crosetto).

The Office Action takes the position that Crosetto's full duplex serial links teach the transfer of data using separate interface buses. However, the serial links of Crosetto are not used to transmit data; rather, they are used to transmit commands for coordinating the transfer of data between two processing nodes. (column 5, lines 57 to 60 of Crosetto). Crosetto expressly distinguishes the serial links connecting processing nodes from the parallel data busses connected to each processing node. (column 3, lines 57 to 59 and column 5, lines 57 to 62 of Crosetto). Furthermore, Crosetto does not disclose connecting a processor node to more than one bus. (see, e.g., FIG. 1 of Crosetto, showing node 100 connected to a single bus 30 only). On the contrary, Crosetto teaches that "all high density data arrives or leaves the node" through a single parallel bus. (column 9, lines 20 to 22 of Crosetto). Therefore, Crosetto is not in any way seen to disclose or fairly suggest first and second interface bus connections. Thus, Kristy in view of Crosetto cannot

disclose or fairly suggest a second interface bus, which connects the image recorder to the dedicated computer, that is different from the first interface bus, which connects the scanner to the dedicated computer, as set out in Claims 1, 34, and 35.

In addition, Claims 1, 34, and 35 as currently amended recite repetition of a scanning step prior to completion of a writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously. For a scanning step and a writing step to occur simultaneously, the dedicated computer must exchange communication signals with both the scanner and the image-recorder at the same time. Gropp is seen to disclose a messaging protocol used in parallel processing. While Gropp discloses the timing of computer-executable process steps, Gropp is silent on the timing of communication signals, much less a dedicated computer exchanging communication signals with multiple peripheral devices simultaneously over different busses. Thus, Gropp cannot disclose or fairly suggest anything regarding a scanning step and a writing step occurring simultaneously.

Thus, the applied references are not seen to teach or suggest at least the features of (1) a second interface bus that is different from a first interface bus, and (2) repetition of a scanning step prior to completion of a writing step, such that transfer of the new plurality of digital images over the first interface bus and transfer of the record image over the second interface bus occur simultaneously.

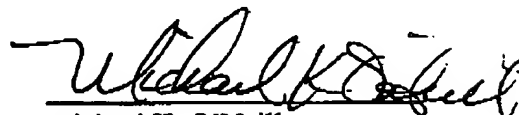
Accordingly, independent Claims 1, 34 and 35 are believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



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